Mouse MAdCAM-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF993

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse MAdCAM-1 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) MAdCAM-1, recombinant mouse (rm) ICAM-1, rmICAM-2, rmICAM-5, rmVCAM-1, and rhICAM-3.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MAdCAM-1 Gln22-Thr365, Predicted Accession # NP_038619
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

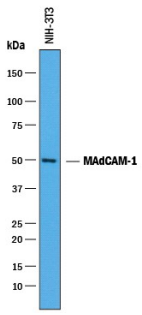
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.25 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

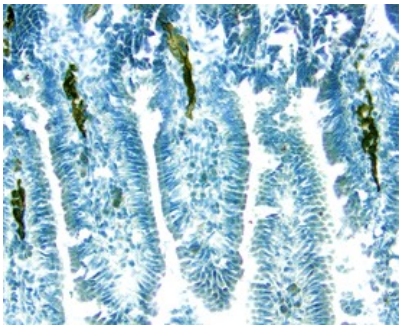
DATA

Western Blot



Detection of Mouse MAdCAM-1 by Western Blot. Western blot shows lysates of NIH-3T3 mouse embryonic fibroblast cell line. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Mouse MAdCAM-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF993) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for MAdCAM-1 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



MAdCAM-1 in Mouse Intestine. MAdCAM-1 was detected in perfusion fixed frozen sections of mouse intestine using Goat Anti-Mouse MAdCAM-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF993) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the endothelial cells of blood capillaries in intestinal villi. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Mucosal addressin cell adhesion molecule-1 (MAdCAM-1) is an immunoglobulin (Ig) cell adhesion molecule family member. In addition to Ig domains, it contains a mucin-like domain and a membrane proximal domain with similarity to IgA. MAdCAM-1 is involved in lymphocyte homing to mucosal sites and is expressed on high endothelial venules (HEV) of both mesenteric lymph nodes and Peyer's patches. It has also been found to be expressed on sinus-lining cells of the spleen. The integrin, $\alpha_4\beta_7$, has been shown to function as the MAdCAM-1 receptor. The Ig domains of MAdCAM-1 have been found to be critical to $\alpha_4\beta_7$ binding. The mucin domain has been shown to have activity in L-Selectin binding. MAdCAM-1 expression has been demonstrated to be up-regulated by TNF-α and IL-1β. MAdCAM-1 appears to play a role in inflammatory bowel disease (IBD) as its expression is highly up-regulated in IBD and most likely serves to recruit $\alpha_4\beta_7$-expressing lymphocytes to the region. In vivo studies involving nonobese diabetic (NOD) mice have also suggested that MAdCAM-1/$\alpha_4\beta_7$ interaction plays a role in diabetes development in this model. Mouse MAdCAM-1 is a 405 amino acid (aa) residue protein with a 21 aa signal sequence, a 344 aa extracellular domain, a 20 aa transmembrane domain and a 20 aa cytoplasmic domain.

References:

1. Briskin, M.J. *et al.* (1993) Nature **363**:461.
2. Yang, X.D. *et al.* (1997) Diabetes **46**:1542.
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